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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,863	02/03/2004	Charles L. Bruzzone	59472US002	3508

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EXAMINER	
SEVER, ANDREW T	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/771,863	BRUZZONE ET AL.	
	Examiner	Art Unit	
	Andrew T. Sever	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano et al. (US 6,386,710 as cited in previous office actions) in view of Schrenk et al. (US 5,872,653 as cited in previous office actions) and Katsumata et al. (US 6,829,090 as cited in previous office actions.)

Kusano teaches in figure 2 a polarizing beam splitter comprising:

A polarizing film (1d);

And a first rigid cover (1a) disposed on the polarizing film.

Kusano does not teach that the polarizing film comprises of alternating layers of two materials that are polymeric, at least one of which is birefringent and oriented. Such a teaching is taught by Schrenk in column 2 lines 19-61, which teaches a polarizing film made of birefringent (see discussion in column 1 lines 40-57) and oriented alternating layers of a polymeric material (see column 1 lines 17-21 as well as column 2 line 16). Schrenk teaches in column 1 lines 60-67 that such a polarization film has the advantage of being fabricated from readily available materials and results in a polarizer having a level of light absorption near zero. Since both these things are desirable attributes reducing cost and increasing performance respectively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Schrenk's polarizing film in the polarizing beam splitter of Kusano (see column 1 lines 22-29 of Schrenk which teaches the polarizing film is used in beam splitters of the type of Kusano).

Kusano also does not teach that at least a pressure sensitive adhesive attaches the cover and the layers of birefringent material to each other (Kusano teaches two layers of polarizer material (1d and 1e separated by adhesive 1c of unknown form)). Katsumata teaches in column 4 lines 1-14 that by using pressure sensitive adhesive (Soft type adhesive) it is possible to suppress internal stress and optical distortion which when present in prior art beam splitters would degrade the quality of the projected image. Accordingly it would have been obvious to one of ordinary skill in the art to use pressure

sensitive adhesive as taught by Katsumata to attach at least one of the covers of Kusano since it is desirable to reduce optical distortion in a polarization beam splitter.

With regards to applicant's claim 2:

Kusano teaches a second cover (1b).

With regards to applicant's claim 3:

Katsumata in column 6 lines 21-27 also describes a UV adhesive, which would be a structural adhesive and both prism would obviously be adhered to the polarizing film in between or else the prism would fall apart.

With regards to applicant's claims 4 and 5:

Both covers are glass prisms (see column 5 lines 1-13 of Kusano).

With regards to applicant's claim 6:

The term photo initiator literally refers to a light beam of some type that initiates a reaction. Since once the beamsplitter is constructed it is assumed that the adhesive has already been reacted and therefore no initiator is required (for example a UV curable adhesive such as that specified by Katsumata would be initiated by UV light which is a photo initiator, once the bonds have been made however UV light is no longer needed.) (See also US 4,243,500 to Glennon as cited in previous office actions, which teaches the structure and method of using a pressure sensitive adhesive in column 5 lines 25-50)

With regards to applicant's claim 7:

After the reaction takes place pressure sensitive adhesives are substantially free of un-reacted monomers (either they did not have any monomers to start with, or the monomers have been reacted sufficiently to bind the parts of beam splitter together.) (See US 4,243,500 to Glennon, which teaches in column 5 lines 25-50 that the photo-initiator causes a radical emitting initiator substance to release a free radical that causes polymerization of the monomers to bond the monomers together in a polymer.)

With regards to applicant's claim 8:

Kusano teaches an adhesive (1c) disposed between the first multilayer reflective polarizing film and the second multilayer reflective polarizing film.

With regards to applicant's claim 9:

Katsumata in column 6 lines 21-27 also describes a UV adhesive which would be a structural adhesive and since prior art prisms used structural adhesive exclusively it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a mix of the UV adhesive (Structural) and the pressure sensitive adhesive. Katsumata teaches that the mix of Structural (UV) and pressure sensitive has desirable qualities in a polarization beam splitter.

With regards to applicant's claim 10:

One embodiment of Katsumata teaches only Structural adhesive.

With regards to applicant's claim 11:

As discussed above, absent evidence to the contrary the adhesive between the two films is a structural adhesive.

With regards to applicant's claim 12:

Both covers are prisms.

With regards to applicant's claim 13:

Kusano teaches in column 5 lines 1-13 that the prisms are glass.

With regards to applicant's claims 14 and 15:

See the above discussion with regards to claims 6 and 7.

With regards to applicant's claim 16:

Kusano teaches in figure 1 that the prism is used in a projection system, which comprises a light source (3), and imaging core (everything after 2 and before 6). With regards to isotropic see Schrenk column 1 lines 40-49 which teaches that the polymers are isotropic and also see column 3 lines 9-16 which teaches isotropic materials must have some stress in order to be birefringent.

With regards to applicant's claim 17:

See above.

With regards to applicant's claim 18-21:

The method of making the polarizing beam splitter of Kusano in view of Schrenk and Katsumata in obvious since the beam splitter of Kusano in view of Schrenk has been shown to be obvious above (see MPEP 2112.02.)

With regards to applicant's claim 23:

Kusano in view of Schrenk and Katsumata does not specifically teach of curing the adhesive during the assembly phase of constructing the prism (this does not preclude that they are cured after the entire prism is constructed.)

With regards to applicant's claims 24-28:

See above wherein the method of making the polarizing beam splitter of Kusano in view of Schrenk in view of Katsumata is obvious, since the obvious beam splitter must be made. (See MPEP 2112.02.)

With regards to applicant's claims 29-31:

The film of Schrenk is comprised of matched z-index polarizer films (see column 4 lines 28-37 and column 2 lines 3-19).

Response to Arguments

4. Applicant's arguments filed 4/3/2006 have been fully considered but they are not persuasive.

Since applicant has amended the independent claims to claim the polymeric birefringent film all claims are now rejected under 35 U.S.C. § 103 and therefore the discussion of the 35 U.S.C. § 102 rejection based on Katsumata is moot. With regards to the 35 U.S.C. §103 rejection, applicant appears to argue that the beam splitter of Kusano is not a polarization beams splitter with a polarizing film of some sort, this is incorrect, column 7 lines 45-50 of Kusano clearly teach that layers 1d and 1e are polarizing and separating films and not merely the surface of the prism (although they may be attached to the surface of the prism.) Accordingly applicant's first argument is incorrect. Furthermore since applicant's second argument that it would not be obvious to use Schrenk's polarizing film in the prism of Kusano is based on the first incorrect argument the second argument is also unpersuasive. With regards to the third argument that Katsumata does not disclose a pressure sensitive adhesive applicant is directed to the previous office actions where the topic of the pressure sensitive adhesive has been thoroughly discussed. As a summary the office holds that within the dictionary definition Katsumata does teach a pressure sensitive adhesive and applicant's arguments are not persuasive.

Since applicant's arguments have been shown to all be incorrect and the rejection has been repeated with only changes made to reflect applicant's amendments to the claims, the rejection is made final.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AS

William Perkey
Primary Examiner